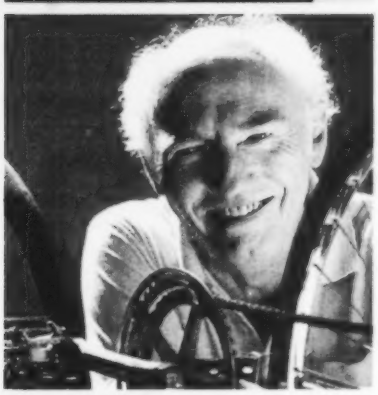

Healthy Active Living for Seniors

Prepared for
The Nova Scotia Office of Health Promotion
The Nova Scotia Senior Citizens' Secretariat

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Healthy Active Living for Seniors

INTRODUCTION

As the population continues to age in Canada, it becomes increasingly relevant to explore quality of life issues pertinent to older adults. Physical activity is an important part of a healthy lifestyle for the prevention of disease and for maintaining or improving functional ability. The purpose of this report is to explore issues concerning physical activity and older adults, age 50 and over. The benefits of physical activity for older adults, as well as the current research will be discussed. Recommendations for the type and amount of physical activity for older adults will be explored. Current physical activity programs for older adults will be examined, as will the potential partners and collaborators. Finally, the role of government will be explored in relation to older adults and physical activity.

Prior to the discussion of physical activity and older adults, it is important to identify some key terms related to the topic. Health Canada (2003) defines healthy living as "...the practices of population groups that are consistent with supporting, improving, maintaining and/or enhancing health. As it applies to individuals, healthy living is the practice of health enhancing behaviours, or living in healthy ways. It implies the physical, mental and spiritual capacity to make healthy choices..." (¶ 7). Health Canada defines physical activity, or active living, as including physical activity in daily living. This can include activities as simple as going for a walk or gardening. Physical activities may focus on endurance, flexibility, and strength (Health Canada, 2003). Different from Health Canada, Brach, Simonsick, Kritchevsky, Yaffe and Newman (2004) define physical activity as any bodily movement resulting in increased energy expenditure. Brach et al. (2004) define exercise as planned, structured and repetitive bodily movement for the purpose of maintaining physical fitness. Finally, the World Health Organization defines active aging as a process of optimizing opportunities for health, participation, and security to enhance quality of life as people grow older. Active aging allows people to realize their potential for physical, social and mental well being across the lifespan. The WHO indicates that being active refers to involvement in social, economic, cultural, and civic affairs, not just physical activity and work. Maintaining autonomy and independence are key goals of active living (WHO, 2002).

Active aging incorporates participation in all facets of life across the life course, thus it is relevant to recognize that participation in activities other than physical activity may be equally important in later life. However, the scope of this report is limited to physical activity for older adults.

Background and Rationale

POPULATION AGING

The population is aging due to both increases in life expectancy and increases in the number of people entering older age (George, Loh, Verma & Shin, 2001). The number of people aged 65 and older will increase from 13% of the population in 2001 to 21% in 2026. As well, the number of people aged 80 and over will more than double in the next 20 years (George et al., 2001). In Nova Scotia, the number of people aged 65 and older will increase from 14% of the population in 2003 to 25% in 2026. As well, the number of people aged 80 and over will grow by 54% in the next 23 years (Nova Scotia Seniors' Secretariat, 2003). Life expectancy is expected to increase in the next 20 years as well. In 2001, life expectancy at birth was 75.5 for men and 81.2 for women. It is projected that by 2026, life expectancy will increase to 80.0 for men and 84.0 for women. In Nova Scotia, life expectancy at birth in 2001 was 81.8, and is projected to be 83.4 in 2026. Increases in life expectancy are due to changes in health behaviour, increases in healthy exercise, medical improvements and safety devices (George et al., 2001). As the population ages, it is relevant to provide programs that will continue to encourage such changes in health behaviour, especially physical activity, in order to reduce the morbidity and mortality rates.

LACK OF PHYSICAL ACTIVITY

Unfortunately, very few older adults actually participate in physical activity on a regular basis. The Canadian Fitness and Lifestyle Research Institute (CFLRI) indicated that 56% of Canadians are inactive. In Nova Scotia, 45% of people over 12 report being moderately physically active. This declines with increased age. Sixty-seven percent of those aged 12-19 are physically active, and 48% of those aged 20-44 are physically active. These numbers decline to 44% for those aged 45-64, and down to 25% for those 65 and older (Nova Scotia Department of Health, 2003). Although the number of people who engage in physical activity in Nova Scotia is not high, there was a ten percent increase between 1994/1995 and 2000/2001 for adults aged 20 and older (CFLRI, 2002).

According to the Active Living Coalition for Older Adults (ALCOA), among adults aged 55 and older, 34% of men, and 29% of women are physically active. Physical activity declines with age, and among those 74 and older, only 29% of men and 19% of women are physically active. One third of older adults participate in physical activity less than two times a week and as a result face increased risk of mobility loss, functional capacity and independence (ALCOA, 1999). In addition to these statistics, Health Canada (n.d.) noted that 60% of older adults are inactive. O'Brien-Cousins and Horne

(1999) noted that the majority of older adults are not active enough to maintain or improve their health, and in a 1994 study, 36% of older adults said that they never exercised. Men report more hours of physical activity than women in all age groups.

Jenkins, Pienta & Horgas (2002) examined the relationship between activity and health related quality of life among older adults living in continuing care communities. They found that those living in assisted living facilities were less likely to engage in both active and passive activities. Independent apartment dwellers participated in more activities and had higher levels of health related quality of life.

Crombie, Irvine, Williams, McInnis, Slane, Alder and McMurdo (2004) interviewed 409 older adults regarding physical activity. They found that knowledge levels regarding the health benefits of physical activity were high, and there was also an awareness of the personal benefits. Most of the participants felt that they were doing enough exercise to maintain health, but many had low levels of leisure time activity.

CONSEQUENCES OF INACTIVITY

Inactivity can have serious consequences for older adults. O'Brien-Cousins and Horne (1999) note that sedentary individuals are twice as likely to develop ischemic heart disease. They argue that the number of adults with ischemic heart disease would be 16% lower and there would be a savings of $350 million in one year if physical activity had been twice as high in 1981. Other consequences of inactivity include declines in bone strength, muscle strength, heart and lung fitness, and flexibility (Health Canada, 2002). Physical inactivity can lead to increased fat mass, heart disease, stroke, and type II diabetes as well. Physical activity plays an important role in maintaining health and well-being among older adults. Inactivity also has negative consequences for society, as it leads to reduced participation in society. Inactivity can lead to decreased volunteering among older adults, increased caregiver burden, decreases in capacity for self care, reduction in the labour force and increases in early retirement (Health Canada, 2002).

BARRIERS TO PHYSICAL ACTIVITY

There are many barriers to physical activity for older adults. ALCOA (1999) indicates that older adults may not be active for a variety of reasons. They may not have the energy or motivation or they may feel ill at ease. Illness, injury, or fear of injury may limit participation. As well, lack of facilities, the cost of participating, lack of skill and lack of a safe place may all act as constraints to physical activity for older adul ts. Inaccessibility may

pose a problem for older adults. Facilities that are not wheelchair accessible, or do not have a washroom near by may discourage participation in physical activity (ALCOA, 1999). If homes and services are far apart, or if there are no sidewalks or walking paths, older adults may be discouraged from physical activity (Partnership for Prevention, 2002). Lack of transportation is another barrier to participation. Poorly lit streets and parking lots may reduce participation. Whether the facility is located in a safe neighbourhood may also have an impact on physical activity levels. In winter, lack of snow removal may pose a problem (ALCOA, 1999).

Participants may lack motivation to participate if they do not want to engage in physical activity alone (ALCOA, 1999). There may be fear of participating alone, and older adults are more likely to exercise with other people (Partnership for Prevention, 2002). As well, there may be a lack of awareness of health issues surrounding physical activity, or a lack of awareness that even moderate activity levels can be beneficial (ALCOA, 1999).

The Alberta Centre for Active Living (2004) explored depression as a barrier to participation in physical activity. They found that during periods of pronounced depression, participation in physical activity, and life itself, was affected. Four themes emerged, indicating that depression can serve as a barrier for participants. These included no energy for participation, feeling consumed by depression, facing a conundrum as the participants of the study recognized that physical activity was important, but positive self talk was very difficult, and finally, moving out of the depressed state. The participants acknowledged that exercise improved mood, but medication was often required to facilitate participation (Alberta Centre for Active Living, 2004).

Part of the lack of physical activity may be because the current cohort of older adults was not socialized to engage in regular physical activity (Grant, 2002). This can take decades to change, although it may not hold true for subsequent generations. Beliefs about physical activity are rooted in socially constructed norms. The dominant discourse emphasizes that engagement in physical activity for older adults, especially women, is inappropriate. Passivity, contemplation, rest and gentle exercises were emphasised in the past, and these ideas have influenced beliefs. Many older adults grew up in a time when rest was considered to be a virtue of old age (Grant, 2002).

Health Canada (2002) indicates that there are certain populations among older adults who are vulnerable to inactivity and more likely to encounter constraints. These populations include those with low income or low education, the oldest of the population, those who have been institutionalized, those with illness

and/or chronic disease, women, and isolated seniors.

Barriers to participation in physical activity are varied. They must be acknowledged and negotiated in order to encourage older adults to increase their physical activity levels. Many barriers may be simple to negotiate, while others will require greater effort to overcome on behalf of the communities and older adults themselves.

Promotion of physical activity participation among older adults will become more and more pertinent as the population ages. Currently there is a lack of physical activity among older adults, which can have many negative effects on one's health and quality of life. The barriers that constrain participation in physical activity are diverse, and should be negotiated in order to encourage more older adults to participate in physical activity to reap the benefits.

Benefits of Physical Activity

The benefits of physical activity for older adults are well documented in the literature. Physical benefits, social benefits, psychological benefits and economic benefits to participation in physical activity will all be considered.

PHYSICAL BENEFITS

Physical benefits of activity in later life are numerous. In general, regular physical activity reduces morbidity and mortality (Brach, et al, 2004). Paffenbarger & Lee (1996) found that men aged 40-65 who reported engagement in vigorous exercise had lower death rates than those who did not. Physical activity can improve fitness and physical health (ALCOA, 1999). Participation in physical activity can prevent or delay age related diseases, such as osteoporosis (Crombie et al., 2004). Participation in physical activity can lead to reduced risk of coronary heart disease, type II diabetes, cancer, and hypertension (Wilcox, Bopp & Oberrecht, et al., 2003).

Physical activity can also prevent and control obesity and problems related to it (Parise, Sternfeld, Samuels & Tager, 2004). Both aerobic activity and resistance training can moderate age related changes to body composition when they are of sufficient duration, frequency and intensity. Body fat increases with age, and aerobic exercise can minimize fat mass gains, as well as help to prevent age related weight gain (O'Brien-Cousins & Horne, 1999). The CFLRI (n.d.) studied a six month walking program involving 60 minutes of brisk walking for five days each week in women with mildly elevated cholesterol. It was found that the program led to decreases in triglycerides, low density lipoproteins, weight, fat mass and body mass index. As well, walkers who lost weight were more likely to see an increase in high density lipoproteins. Brach et al. (2004) found that among 3000 Caucasian and Black older adults aged 70-79 who were interviewed in their homes and underwent clinical examination, regular exercisers had the lowest rates of coronary heart disease, lung disease, diabetes, and osteoporosis.

Physical activity can delay disability (Paffenbarger & Lee, 1996) and reduce the severity of disability that is associated with heart disease and chronic illness (WHO, 2002). The WHO (1998) notes that increased levels of physical activity can break the cycle of illnesses and related disabilities, since physical inactivity exacerbates disability.

More energy, reduced stress levels, better posture and balance, and prolonged independent living are further advantages of physical activity. O'Brien-Cousins and Horne (1999) note that aerobic exercise training in later life can minimize declines in VO_2 max. The WHO (1998) notes that physical activity can have positive effects on metabolism. Regular physical activity can also

improve or maintain joint mobility, which is essential for maintaining functional fitness. Flexibility can be regained in the spine, hip, and shoulder joints. Strength training can improve mobility and reduce the risk of falls and fractures, while increasing one's capacity for independence in every day tasks (CFLRI, n.d.). Nelson, Layne & Bernstein et al. (2004) found that a six month program focusing on strength and balance training with encouragement to increase overall physical activity improved functional performance and balance in older adults with functional impairments.

Fall prevention is another important benefit of participation in physical activity. Less active adults are more likely to fall than those who are active. Exercise training in inactive healthy adults can improve balance (O'Brien-Cousins & Horne, 1999). Wolf, Stattin, & Kutner, et al. (2003) note that physical activity is associated with a 20-40% reduction in the risk of broken hips. They argue that exercise designed to improve balance and strengthen lower extremities may reduce the risk of falling. Stephen, Castell and Corcoran et al. (2003) assessed whether group exercise designed to improve ability in activities of daily living could prevent falls for adults who were living in retirement villages. Five hundred and eight subjects between the ages of 62 and 95 were randomized to the intervention or the control group. The intervention consisted of weight bearing activities and group activities, with emphasis on enjoyment and interaction. The control group worked on relaxation and flexibility. It was found that those in the intervention group had 22% fewer falls than those in the control group. Among those who fell frequently prior to the intervention, there were 31% fewer falls after the intervention. Participation in physical activity and strength and balance training may decrease the incidence of falls among older adults.

SOCIAL BENEFITS

While the physical benefits of an active lifestyle in later life are very important, there are also social benefits of participation in physical activity. The WHO (1998) indicates that one of the keys to maintaining physical activity is the role that significant others and family members play in maintaining an active life. They argue that the benefits of physical activity may be easier to accept if older adults can perceive them in terms of more time with their loved ones. ALCOA (1999) notes that physical activity can lead to relationship building and social integration. ALCOA (n.d.) indicates that one of the benefits of starting to engage in physical activity was being able to meet new people.

Hoppes, Wilcox and Graham (2001) conducted a qualitative study to determine meanings derived from games for older

adults aged 62-89. The participants in the study participated in bowling or tennis, and experienced feelings of belonging, socialization and friendship as a result. Siegenthaler and O'Dell (2003) interviewed older golfers and found that social interaction and friendships were a very important aspect of involvement for most of the participants. Legge (2004) interviewed Jean Shaw, who implemented Elderobics for 25 years in Halifax. Jean Shaw noted that the social aspect of the group is tremendous, and that group motivation is involved in the program.

PSYCHOLOGICAL BENEFITS

Psychological benefits of physical activity are also pertinent to older adults. The WHO stated in 1998 that most studies have found a positive correlation between exercise and mental health, however it is unknown whether physical activity influences mental health, or whether mental health influences physical activity.

Symptoms of depression and anxiety can be decreased with physical activity, and quality of life can be improved (Wilcox, et al., 2003). Better mental health and reduced stress are also advantages of regular physical activity (ALCOA, 1999). ALCOA (1999) argues that improved concentration and feelings of inner peace that often result from participation are further benefits. Siegenthaler and O'Dell (2003) found that the golfers in their study felt that golfing resulted in stress relief and relaxation. For those golfers who played for therapy, the value of golf was in the renewal of self. One participant felt that it was very helpful in coping with depression.

Physical activity can also be beneficial for life satisfaction. Mannell (1999) writes that people in poor health are less satisfied with their lives than those who are in good health. Functional declines that reduce activities in daily living are more strongly negatively correlated with life satisfaction than chronic disorders. Thus, exercise that can maintain independence and functional ability in ADL's can lead to life satisfaction.

Cross sectional studies and correlation studies show that physically unfit people experience greater anxiety than those who are fit. There is weak evidence that exercise reduces depression in the elderly, but the association appears to be stronger among those individuals with mild to moderate depression (O'Brien-Cousins & Horne, 1999). As well, exercise involving social participation may help to reduce depression. Correlation research indicates that people with a history of active living and current participation in physical activity have higher self esteem than those who are not, although there is no evidence for causality. As well, physical activity appears to have a positive influence on self efficacy (O'Brien-Cousins & Horne, 1999).

One of the tennis players in Hoppes et al.'s study believed that participation was a form of cognitive exercise. Many of the participants enjoyed feelings of accomplishment and enjoyed the self change. There was pleasure found from being involved in competition and the challenge of playing. They also indicated that participating in their sport or game on a regular basis provided structure and gave them a reason to get out of bed. It kept their minds off problems they experienced in daily life.

ECONOMIC BENEFITS

There are also economic benefits to physical activity in later life. The Active Living Coalition for Older Adults (1999) notes that one benefit of regular physical activity is reduced health care costs. The WHO concurs, indicating that medical costs are substantially lower for active older adults. This is true in terms of medical care, geriatric care, and the cost of injuries. Physical activity can extend one's healthy lifespan, reduce illness and foster independent living, which is very cost effective for society. Exercise programs can reduce the need for expensive institutional care by increasing older adults' physical capacities. Research shows that those who are more active have significantly lower health care costs than those who are inactive (O'Brien-Cousins & Horne, 1999). Health Canada (2002) believes that regular exercise is a more straightforward and economical way to lifelong health than medication and acute care. A reduction of 10% in physical inactivity would save five billion dollars in lifetime costs for medical care, sick leave, and lost revenues from taxes resulting in premature death (Health Canada, 2002). Health Canada notes that a 16% increase in the number of Canadians active enough to reduce heart disease would result in $700 million in savings over that period. It is estimated that a one percent increase in physical activity could lead to $10.2 million saved for ischemic heart disease, $877 000 for type II diabetes, and $407 000 for colon cancer. Thus, economic benefits of physical activity could be quite significant with a reduction in physical inactivity.

The benefits of physical activity for older adults are numerous and extend far beyond physical benefits. Physical activity can lead to the prevention of many diseases, improved functional ability and physical fitness, and reduced risk of falls. Physical activity can offer the opportunity for socializing and developing friendships, and is correlated with mental well-being. Physical activity can reduce health care costs for older adults.

How Much is Enough?

Since many older adults who exercise do not exercise enough to reap the many benefits or prevent disease, it is relevant to explore how much exercise is enough. Brach et al. (2004) found that men and women who participate in at least a moderate amount of physical activity each day had better physical function than those who were less active. They found that regular exercisers, who engaged in 30 minutes of moderate intensity physical activity on most days (at least 1000 kcal/wk of exercise activity) had greater functional capacity than those who engaged in less intensive activity but expended similar amounts of energy. Intensity of the activity is very important for physical function, and those who participate in regular exercise get additional benefits for physical capacity than those who do not. It is important to note that participating in any physical activity was better than being inactive (Brach, et al., 2004).

In 1996, Haskell indicated that all older adults should engage in 30 minutes of moderate or high intensity activity on most days. Between 66% and 75% of exercise time should include endurance activities. Endurance activities should be high intensity, or 45%-85% of maximal O_2 uptake. They should involve rhythmical use of large muscle groups. Haskell (1996) recommends low impact activities for older adults such as walking, swimming, stationary cycling or rowing.

Twenty-five percent to 33% of time spent in physical activity should include strengthening activities, such as stretching to improve flexibility and range of motion. Strength exercises should be performed at least twice a week, and should involve the major muscle groups. People age 50 and over should increase resistance when 15 or more repetitions can be performed.

Canada's Physical Activity Guide to Healthy Living for Older Adults (aged 55 and over) recommends that older adults engage in endurance activities four to seven days a week, flexibility activities daily, and strength and balance activities two to four times per week. Endurance activities should include continuous activities that make one feel warm and breathe deeply, increase energy, and improve heart, lungs and circulatory system. Flexibility activities include reaching, bending and stretching. Strength and balance activities include lifting weights and resistance activities, and improving balance and posture. Similar to Haskell, the physical activity guide recommends that it is best to be active every day. They suggest that 30-60 minutes of moderate activity will improve health and fitness (Health Canada, n.d.).

Physical activity can be built up during the day. Ten minute segments that total 30-60 minutes throughout the day are beneficial and may be more convenient than doing 60 minutes all at once (Haskell, 1996; Health Canada, n.d.).

The physical activity guide offers some suggestions for older adults to begin physical activity. Older adults could take a ten minute walk each day, increasing pace over time, taking the stairs instead of the elevator, and lifting weights to strengthen arms (household goods can be used for weights). Some recommended endurance activities include walking, swimming, dancing, skating, cross-country skiing, cycling and hiking. Flexibility activities could include stretching, dancing, gardening, washing the car, mopping the floor, yard work, Tai Chi, golf, yoga, bowling and curling. Strength and balance activities could include lifting weights, carrying the laundry, carrying groceries, climbing stairs, wall push-ups, weight training classes, piling wood, and standing up and sitting down several times in a row.

Physical Activity Programs for Older Adults

Currently, there are many different physical activity programs for older adults across the country. Programs range from community based programs to in home programs, and from exercise programs to educational programs. Some programs are designed for frail elderly, while others are designed for those who are more independent.

COMMUNITY-BASED PROGRAMS

The Partnership for Prevention (2002), in the US, provided information about four different community walking programs designed to encourage older adults to become more active. Nashville developed a program entitled Promoting Physical Activity While Building the Community. Active aging walks were organized during Walk Nashville week. In the first year, they originated from seniors' centres and community health centres, and now they also start from a seniors' high rise. Throughout the year, health department staff work with older adults to promote waking in daily life. They provide information about exercise levels, attire, methods for maintaining fitness and pedestrian safety (Partnership for Prevention, 2002).

Similarly, Sacramento developed a neighbourhood walk that provided a social support network to increase physical activity among older adults. They created ten walking groups. Participants were recruited through the media, and fliers in local establishments and mailboxes. Groups were self directed, self paced and self motivated. The city provided t-shirts and visors for motivation, and encouraged the groups to meet socially outside of the walking group. After two years, five of the ten groups remained active. Lectures on health and a newsletter were key to sustaining groups. Twenty-five percent of the participants continued to walk (Partnership for Prevention, 2002).

Wheeling, West Virginia created Wheeling Walks in 2001. This involved an eight week media campaign to encourage those aged 50-65 to walk for 30 minutes per day in ten minute stints. The city endorsed safe walking on sidewalks, near worksites, on trails and in shopping malls. Community wide walking events were held to encourage people to start walking. Over 2000 people enrolled in the program, and the program yielded a 14% increase in walking (Partnership for Prevention, 2002).

The fourth program took place in Largo, Florida. They adopted an intergenerational approach, and combined seniors' activities with youth initiatives focused on learning. The program involved urban trail construction linking parks and recreation areas. The youth were trained to experience functional limitations and played a significant role in trail development. Seniors were able to join thirty minute walks each day in the community

centre auditorium. Progress will be measured over time, and the older adults will be encouraged to use the trails developed by the youth as their fitness improves (Partnership for Prevention, 2002).

A Canadian example of a community wide program is the MacSenior's Exercise and Wellness program, at McMaster University (American College of Sports Medicine, 2002). The program began in 1989 as a research study (K. Winegard, personal communication, July 13, 2004). It was a weight training program for older adults aged 60-80. Upon completion of the study, participants were interested in continuing with the exercise program. The program included aerobics (stair mills and cycling); strength training (free weights, individual universal stations); nutrition; and assessment by a doctor (American College of Sports Medicine, 2002). The program has grown from 70 to more than 300 participants since 1992 through word of mouth and notices in doctors' offices. The participants exercise twice a week (K. Winegard, personal communication, July 13, 2004). The participants of the program enjoy volunteer training assistance provided by kinesiology students (American College of Sports Medicine, 2002).

The Canadian Centre for Activity and Aging has a program for adults ranging in age from 55-93 that began in 1989 (American College of Sports Medicine, 2002). Participants also range from very fit to relatively frail, and many experience chronic diseases or repercussions from surgery. The program has 422 participants, and there are two staff members for every twenty participants. The purpose of the program is to reduce functional declines, increase functional capacity, educate about the benefits of exercise, and teach proper skills and techniques so participants can continue exercise outside of the program. Components of the program include a cardiovascular class, walking and strength training, power walking, Tai Chi, and programs for various chronic diseases (American College of Sport Medicine, 2002).

The Canadian Centre for Activity and Aging (n.d.) has a program entitled Get Fit for Active Living. This program introduces the benefits of exercise to older adults. It is eight weeks in length and involves education and exercise. It teaches older adults how to get started on a regular exercise program, and about the importance of a healthy active lifestyle in maintaining independence. It also includes an introduction to Canada's Physical Activity Guide for Older Adults. Participants complete a health assessment before starting, including a stress test and fitness appraisal. Exercise sessions include warm-up, walking and aerobics, balance exercises, stretching, mat work, and cool down. Strength training

involves the use of hand held weights, resistance bands, and weight machines. The education component of the program involves the benefits of physical activity, strengthening and stretching, nutrition, disease, and community exercise programs. The program is offered at five different sites, has 11 facilitators, and 61 graduates (CCAA, n.d.).

The CCAA developed the First Step Program as a physical activity intervention for people with type II diabetes (CCAA, n.d.). The program isbased on program theory, which organizes and explains what happens in a program and why. As well, the First Step Program incorporates principles of the experiential learning cycle and well-designed learning objectives (CCAA, n.d.). The program is implemented by a single leader, such as a peer leader or a diabetes educator.

The program is divided into two phases. The first phase involves adoption of an activity level that gradually increases. This phase is four weeks in length. It consists of weekly group meetings, individual goal setting, and self monitoring. The program uses a pedometer for feedback. Meetings include individual progress reports, a group walk that increases in length with each meeting, and discussion to plan strategies and personalize goals for the next week. Based on average pedometer values, the number of steps during the timed walk, and strategies intended for use, the participants are encouraged to increase their number of steps per day each week. Participants monitor their daily activity by wearing their pedometer and referring to it for feedback to strive to reach daily goals. Progress is tracked by recording the number of steps taken each day on an activity calendar. Participants receive a certificate of completion and are encouraged to increase or maintain their activity levels using the pedometer and activity calendar (CCAA, n.d.).

The second phase is the Adherence phase. This phase is 12 weeks in length, and participants continue to set individual goals and monitor their progress. At the end of the phase, participants whose daily steps have decreased by 1000 are encouraged to attend a booster session that helps participants to identify and overcome barriers to continuing their increased activity level (CCAA, n.d.).

A randomized control trial was conducted to determine whether the First Step Program would lead to increased physical activity. Sixty adults aged 40-60 with type II diabetes were assigned to either the control group or the intervention for the six month long trial. Those in the control group continued with their normal daily physical activity, while those in the intervention group completed the First Step Program and were encouraged to increase physical activity. Both groups had the same baseline physical activity level. After participating in the first step

program, the intervention group had an activity level that was significantly higher than that of the control group (CCAA, n.d.).

The CCAA (n.d.) has other community programs for older adults. The cardiorespiratory/ walking program is one hour in length, and begins with a warm up (slow walking and range of motion exercises). Next, the participants engage in 20 minutes of walking and simple aerobics. The remainder of the hour involves muscle strengthening exercises, flexibility, balance training, abs and back strengthening exercises. The centre also has a combined program, including walking and strength training. There is 20 minutes of walking, followed by 20 minutes of strength training for back, chest, shoulders, arms, legs, abs, and the cool down focuses on balance, flexibility and abs and back strengthening. The centre has a strength training program that includes warm-up and strength training of all muscle groups. Each exercise involves one set of 15 repetitions at 60% of one's maximum, followed by two sets of ten to 12 repetitions at 80% of one's maximum. Cool down involves stretching, abs and back strengthening. Tai Chi is offered twice a week, and involves flexibility, strength, balance, deep breathing and relaxation (CCAA, n.d.).

The centre also offers programs targeted at older adults with chronic diseases. An osteoporosis program is offered and includes a warm up and stretching, low impact aerobics and walking, muscle strengthening, balance and flexibility. There is also a functional fitness program for frail elderly, involving range of motion for all joints, self paced walking for ten minutes, muscle strengthening and flexibility exercises. There is a Chronic Obstructive Lung Disease Program conducted by a physiotherapist. Participants have the option of one hour of weight training first. The second hour involves breathing exercises, stretching and exercises. walking at one's own pace for 15 minutes, strengthening using hand held weights and dynabands, and finally cool down involving deep breathing and progressive muscle relaxation (CCAA, n.d.).

Elderobics is a local community program for older adults co-ordinated through the YMCA. The program began 25 years ago for adults aged 55 and over. It is offered at eleven locations, and there are 600 participants. Locations include church halls, and community centres. The program helps with cardiovascular training, muscle strength, and flexibility (Legge, 2004).

IN-HOME PROGRAMS

While there are many community programs, there are also in home exercise programs for older adults. The Feeling Better Program in Guelph, Ontario, is designed for frail homebound older

adults aged 55 and older. The goals of the program include enhancing well being by increasing physical activity and decreasing isolation; education of volunteers and participants about the benefits of physical activity; and support and exchange of ideas and resources. Volunteers visit the participants' homes and lead them through consistent, gentle, progressive exercises (Pyra, 2003).

The CCAA (2004) developed the Home Support Exercise Program to enable frail homebound adults to maintain or improve functional mobility and independence. The program is beneficial in improving physical and social well-being. The program involves ten simple progressive exercises designed to enhance or maintain functional mobility and independence. The program was pilot tested with a small sample to examine its feasibility and suitability for delivery through formal support service providers. Trained case managers implemented the program, and trained personal support workers provided support and encouragement. The pilot study found that the program was suitable. A controlled research project was conducted to examine the effectiveness of the program compared to a control group and to evaluate feasibility of delivery through homecare. It was found that the program was beneficial in improving physical and psychosocial well-being. Improvements in functional mobility, endurance and lower extremity strength improved life outlook also resulted. Participants felt that they could do things more easily around the home, and support workers reported increased client energy levels and endurance (CCAA, 2004).

EDUCATIONAL PROGRAMS

In addition to exercise programs for older adults, there are educational programs that encourage older adults to participate in physical activity. One such program was designed by Jones, Dellacorte, Nigg and Clarke (2001). The program, called Seniorcise, used the transtheoretical model to develop exercise behaviour, since the model provides strategies to address behaviour change. The program provides tailored instructions and guidance for people in any stage of readiness to help them initiate and maintain behaviour. A booklet that provides information about exercise for participants in the early stages of change was published and distributed. The booklet included information about the pros and cons of remaining active. It also contained illustrations, suggestions for becoming and remaining active, instructions on particular exercises and stretches, rewards, and information on other exercise programs in the community. Ninety-eight exercise booklets were distributed, and 54 people participated in a survey. The booklet had a positive evaluation. As well, behaviour and attitude changes among those who

received the book were made, thus the booklet based on the transtheoretical model can be successful in motivating older adults to exercise (Jones et al., 2001).

Pyra (2003) described a variety of Canadian educational programs for older adults. The Active Living Program in Saskatchewan provides resources and services to increase physical activity. Presentations of health benefits of regular activity are available for older adults. As well, they have a handbook and exercise video and walking club material available for older adults. The Go Ahead Seniors Inc. program in New Brunswick consists of a group of senior volunteers. The program is bilingual and helps seniors to make informed choices about health and well being through health education, personal empowerment and prevention. Sessions are held to gain information on medicine, stress reduction, physical activity, healthy eating, health choices and fall prevention. The program is free of charge and is sponsored by Health Canada and Veterans Affairs. The Older Adult Wellness Program in Saskatoon encourages older adults to adopt lifestyle choices and practices to maintain health. They provide presentations on chronic disease prevention, and strategies for staying well with chronic disease.

Other education programs involve training others to provide physical activity programs for older adults. The Train the Trainer: Be Active – Be Well program in PEI trains older adults to deliver presentations on healthy living topics and diabetes prevention. The program is facilitated in 45 senior citizens' clubs. It involves education about type II diabetes and how to prevent, delay or control it through a healthy lifestyle.

The Ever Active Adults (EAA) program (Alberta Centre for Active Living, 2004) is an evidence based course and curriculum that provides physical activity training for practitioners in seniors' housing in Alberta. The program was developed in collaboration with the Alberta Centre for Active Living and Alberta Fitness Leadership Certification Association. The program aims to improve quality of life by increasing opportunities for physical activity in Alberta's seniors' lodges (Alberta Centre for Active Living, 2004). It was developed with a health determinants framework considering how personal, social and environmental factors influence a healthy lifestyle (Alberta Centre for Active Living, 2002). Program evaluation found that it provided coordinators with knowledge and tools to increase physical activity opportunities in seniors' lodges. Practices were positively affected and practitioners were able to modify or implement programs successfully. Practitioners perceived positive changes in the lodges' social and physical environment after implementing program changes. They realized that lodge

residents' well-being and quality of life could be positively affected by physical activity programs. Practitioners identified receiving support from residents and managers as key in allowing them to implement and support physical activity programs. These two training programs are another way of encouraging physical activity among older adults to improve quality of life.

Tips for Successful Programs

Organizations and publications offer many tips for success for physical activity programs for older adults. These tips, suggestions and keys to success should be considered before and during the planning and implementation of physical activities for older adults.

ALCOA (1999) recommends that older adults have a voice to identify their own needs, interests and rights, and that they have input into decision making. Involving stakeholders in planning and implementation can provide insight into the needs, desires and social norms of the community and residents will be more likely to participate (Partnership for Prevention, 2002). Pyra (2003) notes that involvement of seniors in all aspects of program design and delivery results in successful programs.

Creating awareness among older adults about the importance of physical activity is a key for success (Health Canada, 2002). Multiple sectors in the community should emphasize physical activity (e.g. health care, media etc.) (Partnership for Prevention, 2002). Establishing contact with health care professionals, agencies, and community organizations that can encourage participation is also beneficial (Health Canada, 2002). People and professionals should be informed and educated regarding the importance of staying active with age. Peer leaders can also be supported to promote regular physical activity for people as they age (WHO, 2002). Increasing public awareness about the benefits of active living can lead to the valuing of physical activity (ALCOA, 1999).

Partnership for Prevention (2002) recommends a multigenerational approach, as young people who exercise are more likely to do so in later life. As well, this can unite generations, strengthen communities and change social norms. The American College of Sports Medicine (2002) recommends including intergenerational interactions between university students and seniors as a key factor to success.

Programs should be implemented in an area that is accessible and acceptable to the target audience (Partnership for Prevention, 2002). Pyra (2003) agrees that programs must be accessible and also argues that community driven programs were relevant to seniors. Barriers to participation should be identified and addressed (Health Canada, 2002). The WHO (2002) recommends providing pleasant, accessible and affordable opportunities for physical activity. Programs should be culturally appropriate as well. It is important to provide safe areas for walking (WHO, 2002). Programs should be free or low cost, and incentives should be provided to motivate people to participate (Partnership for Prevention, 2002).

Evaluation should be built into program plans to modify programs for effectiveness and to ensure accountability (Partnership for Prevention, 2002).

Evaluation of both past and present interventions have influenced the success of interventions in the past (Health Canada, 2002). Formal evaluation, feedback from participants, demand for service and participation level, and other activities or programs that have started as a result of current programs are key factors that contribute to the success of physical activity programs (Pyra, 2003). These should be considered when building evaluation into a program.

Programs should include dedicated (Partnership for Prevention, 2002), highly skilled staff (American College of Sports Medicine, 2002). ALCOA (1999) suggests developing competent leaders who can meet the needs and interests of older adults. Peer leadership is highly recommended. Enthusiastic and dedicated volunteers also lead to successful programs (Pyra, 2003).

Other recommendations for success should also be considered. Health Canada (2002) recommends responding to diverse populations and needs; considering different types of approaches and models to determine what is most appropriate for the situation; and working in the long term to ensure program sustainability and ongoing participation. Health Canada (2002) notes that the most effective interventions are community based and targeted at specific populations. ALCOA (1999) recommends supporting and encouraging older adults' desire to be active by ensuring that resources and social supports are in place. ALCOA also recommends strengthening delivery systems and improving levels of co-operation, coordination and communication among organizations. Partnerships are very important and a broad range of community partners will lead to success (Pyra, 2003). Crombie et al. (2004) recommend highlighting the non-health benefits such as socializing and enjoyment in order to raise interest in participation. Social interaction among participants is also recommended by the American College of Sports Medicine.

By incorporating these tips for success into the planning, implementation and evaluation of physical activity programs for older adults, successful programs can be developed locally.

Potential Partners

Partnerships are important for the success of physical activity programs. Pyra (2003) notes that partnerships are critical for healthy aging and seniors' wellness initiatives. There are many Canadian agencies that support physical activity programs. These may be useful for local physical activity programs for older adults.

INTERNATIONAL COUNCIL ON ACTIVE AGING

The International Council on Active Aging (ICAA) is an association uniting professionals who work with older adults. The ICAA provides a connection for professionals whose goals include changing perceptions of aging and improving quality of life for Baby Boomers and older adults in all aspects of life (emotional, vocational, physical, spiritual, intellectual and social). The ICAA provides education, information, resources and tools so that optimal success can be achieved (ICAA, n.d.). The ICAA may be useful as a partner in providing resources, tools and support for physical activity programs.

THE INTERNATIONAL SOCIETY FOR PHYSICAL ACTIVITY AND AGING

The International Society for Physical Activity and Aging (ISAPA) is a not for profit society. It promotes research, public practice, and policy initiatives regarding physical activity and older adults. The mission of the society involves promoting physical activity, exercise science, and fitness in the health and well being of older adults; promoting international initiatives in research, clinical practice, and public policy regarding physical activity and aging; serving as a liaison between international, national, and regional professional groups with an interest in activity and aging; and disseminating information about aging and physical activity through publications (ISAPA, 2004). ISAPA's focus on international research, clinical practice and public policy may be useful for developing programs in Nova Scotia.

ACTIVE LIVING COALITION FOR OLDER ADULTS

ALCOA promotes physical activities while recognizing critical linkages of physical health with social, mental, emotional and spiritual well-being (ALCOA, n.d.). ALCOA has a speakers' bureau, in which older adults present the benefits of physical activity to groups of 15-20 participants. ALCOA also has a research update for older adults, health practitioners, active living leaders, and leaders in the older adult community. It provides active living tips for older adults. ALCOA's speakers' bureau and their research update could be quite useful in promoting physical activity for older adults in Nova Scotia.

CANADIAN CENTRE FOR ACTIVITY AND AGING

The Canadian Centre for Active Aging, situated at the University of Western Ontario, could also be a potential partner for local programs. Its mission is: "To develop, encourage and promote an active, healthy lifestyle for Canadian adults that will enhance the dignity of the aging process." (CCAA, n.d., ¶3). The goals of the program include becoming a national centre supporting physical activity for the aging population; becoming a national co-ordinating and accreditation institute for its community based programs and services for older adults; supporting, encouraging and disseminating research regarding active lifestyles and acting as a resource for Health Canada and other national organizations; establishing international alliances and promoting an exchange of scientific knowledge, health, and community programs to benefit active older adults; educating provincial governments, industry and social agencies on the benefits of an active aging population; and being the national data centre for information on activity and aging (CCAA, n.d.). Since the centre's beginnings in 1989, community outreach has been developed to promote the independence of older adults, including prototype physical activity programs, and leadership training programs for older adults. With its program prototypes, leadership programs, and goal to promote active aging across Canada, the CCAA could be a very beneficial partner.

HEALTH CANADA

Health Canada may also be a useful resource when developing local programs. Health Canada and the provinces and territories are working with other levels of government, community groups, volunteer organizations, Aboriginal Peoples, the private sector, academia, consumer organizations, and others to develop the Integrated Pan-Canadian Healthy Living Strategy to build a healthier nation, and to emphasize nutrition and physical activity (Health Canada, n.d.). The Integrated Pan-Canadian Healthy Living Strategy includes the conceptual basis for sustained action over time. Phase I of the strategy emphasizes healthy eating, physical activity, and their relationship to healthy weights. Partnerships and collaboration are a priority for the Strategy (Health Canada, n.d.).

Health Canada's Physical Activity Unit may also be useful for local physical activity programs. The mission of the Physical Activity Unit is to improve health and well being through regular physical activity. Its goals include encouraging physical activity by increasing awareness about the benefits of healthy living and the range of opportunities to be active, influencing social and

physical environment and opportunities that facilitate the integration of physical activity into daily life, and establishing partnerships with government and non-governmental organizations to encourage and support collaborative action and to increase capacity to foster physical activity (Health Canada, n.d.).

Health Canada's Division of Aging and Seniors provides advice and support for policy development. It conducts and supports research and education. It encourages innovative ways of improving seniors health in situations of risk. It works and consults with partners, including the provinces, territories, and seniors' organizations. It encourages communication and dissemination of information about physical activity, and provides national support to the national advisory council on aging (Health Canada, n.d.).

Health Canada's Integrated Pan-Canadian Healthy Living Strategy may lend support to local efforts to increase active living among older adults. The Physical Activity Unit, and Division of Aging and Seniors may be useful partners for local programs.

CANADIAN SOCIETY OF EXERCISE PHYSIOLOGY

The Canadian Society of Exercise Physiology (CSEP) is an organization composed of professionals who study exercise physiology, exercise biochemistry, fitness and health (CSEP, n.d.). Its mission is to promote the generation, synthesis, transfer and application of research and knowledge related to exercise physiology. Its guiding principles include promotion and fostering growth of research and education in exercise physiology; providing a national forum for those whose interests link to exercise physiology; recognition of regional diversity of Canada, and offering equal opportunities regardless of age, gender, race or disability, and application of knowledge gained from research (CSEP, n.d.). CSEP played a role in the development of Canada's Physical Activity Guide to Healthy Living for Older Adults, thus it could be a beneficial partner in supporting exercise programs in Nova Scotia, and may provide information regarding the benefits of physical activity and the amount of exercise necessary to maintain or improve health and well-being.

POTENTIAL PARTNERS IN NOVA SCOTIA

Partners that may be beneficial for active living programs for older adults in Nova Scotia include the government's Office of Health Promotion, Department of Health, and Senior Citizen's Secretariat. Others include Recreation Nova Scotia, Sport Nova Scotia, and various other organizations in the public, private, and voluntary sectors with a stake in improving the physical activity levels of seniors.

The Office of Health Promotion was created in 2002. The Sport and Recreation Commission and aspects of the Population Health Branch of the Department of Health were brought together to improve the health of Nova Scotians. The Office focuses on physical activity among other strategic priorities (Province of Nova Scotia, 2004a). The Office's Sport and Recreation division currently promotes physical activity through its Active Kids, Health Kids strategy. The Office has committed to expand its physical activity strategy to reach all Nova Scotians in the next year. (Province of Nova Scotia, 2004b).

The Office of Health Promotion provides support to the Nova Scotia 55 Plus Games Society, a not-for-profit society dedicated to promoting the participation of Nova Scotia seniors in recreational, sporting, cultural, educational, and creative activities through participation in the Nova Scotia 55 Plus Games. The Society also helps determine Nova Scotia's representatives for the Canada Senior Games.

The Department of Health promotes, maintains, and supports the health status of Nova Scotians (Province of Nova Scotia, 2004c). Its programs and services include Continuing Care, Emergency Health Services, Health Promotion Publications, Mental Health Services, Nova Scotia Health Care, Nova Scotia Pharmacare, and the Nova Scotia Senior Citizens' Secretariat, among others (Province of Nova Scotia, 2004d).

Continuing Care serves Nova Scotians who need care outside of the hospital. This includes home care, long term care, and adult protection services. Continuing Care may serve as a valuable partner in reaching older adults who are home bound or institutionalized in order to promote physical activity among these two vulnerable populations of older adults (Province of Nova Scotia, 2004d).

The Nova Scotia Senior Citizens' Secretariat facilitates the development of policies on aging and programs for seniors across government. It also serves as an information centre on all matters relating to aging and seniors (Nova Scotia Senior Citizens' Secretariat, 2004). It does so by developing plans, policies and programs for and with seniors in partnership with other government departments and voluntary seniors' organizations and by coordinating plans, policies and programs presented by government departments. The Secretariat provides leadership on aging issues (Nova Scotia Senior Citizen's Secretariat, 2004).

Recreation Nova Scotia is a provincial not for profit organization that promotes the values and benefits of recreation and leisure. The organization is committed to maintaining relationships with recreation directors, community organizations, government officials, students, the business sector and other professions.

Recreation Nova Scotia works to ensure that everyone has the right to accessible recreation opportunities (Recreation Nova Scotia, 2004).

Sport Nova Scotia is non profit, non-governmental organization that represents sport organizations and sport participants (Sport Nova Scotia, n.d.). The mission of the organization is to act as a voice for sport, promoting the benefits of health, personal development and achievement. It provides support, direction and leadership to members as they deliver sport opportunities to Nova Scotians.

Both Recreation Nova Scotia and Sport Nova Scotia could serve as partners for physical activity programs as they fulfill their mission statements in providing opportunities for all Nova Scotians. These two organizations could provide support, funding, and resources for physical activity programs for older adults.

Many other organizations in the private, non-profit, and voluntary sectors may consider partnership with physical activity initiatives. These include seniors' organizations, such as the Royal Canadian Legion, seniors' centres, YMCAs/YWCAs, organizations serving those who suffer from specific chronic diseases, and organizations serving health professionals. These local organizations may be excellent partners to involve in physical activity programs for older adults, as their interests lie with Nova Scotians' health and well-being. Physical activity and programs could be promoted through these agencies. The expertise and experience of these local organizations could be invaluable to any physical activity initiatives.

Roles for Government

Various levels of government have important roles to play in the planning and implementation of physical activity programs for older adults. Health Canada can play a role in promoting physical activity at the federal level. The provincial government's role can be fulfilled by The Office of Health Promotion and the Nova Scotia Senior Citizen's Secretariat.

Health Canada outlined the federal role in the promotion of physical activity, which includes strategic leadership and policy development (Health Canada, n.d), a responsibility it shares with the provinces, territories, national voluntary organizations, and the private sector. Health Canada's role also includes identifying emerging issues and establishing policies and plans that enable Canadians to have access to equitable opportunities to be active. It also gives advice to national organizations and emphasizes collaboration and partnerships that are needed with the public, private and voluntary sectors. It can support and participate in research, knowledge development, and information dissemination, which are key activities for evidence-based planning and policy development. It could provide authoritative information to members of the public, professionals, and policy makers to maintain awareness of recommended levels and types of physical activity for individuals, society and the environment and can promote and communicate the benefits of physical activity and the health risks of inactivity. Media campaigns are necessary to raise awareness, change attitudes and reinforce individual choices (Health Canada, n.d.).

At the provincial level, Nova Scotia's Office of Health Promotion has a key role to play in increasing the physical activity levels of older Nova Scotians. Its commitment to expand the provincial physical activity strategy to reach all Nova Scotians could lead the adoption of a strategic leadership role which can build partnerships with other stakeholders such as the Nova Scotia Senior Citizens' Secretariat, Sport Nova Scotia, Recreation Nova Scotia and others in the public, private, and voluntary sectors, including seniors themselves. It can also keep abreast of current trends in active aging and liaise with local, national, and international partners to ensure Nova Scotia's plans are based on sound information and best practices, and linked to appropriate federal strategies such as the Pan-Canadian Healthy Living Strategy and provincial strategies such as Nova Scotia's injury prevention and chronic disease prevention strategies.

The Office can create awareness and understanding of the benefits of physical activity for older adults among policy makers and partners that may stimulate action and promote equity in the distribution of resources. Other roles for the Office include policy development,

promoting linkages with municipal governments, and providing support for local programming.

The Nova Scotia Senior Citizens' Secretariat can assist the efforts of the Office of Health Promotion to increase the physical activity levels of older Nova Scotians. Specifically it can help to identify potential partners, develop plans, establish priorities, and help create awareness among seniors of the benefits of physical activity and the opportunities available for increasing their activity levels. The Secretariat has developed an extensive provincial seniors' network and can help facilitate the involvement of seniors in planning and promotion (H. Praught, personal communication, August 13, 2004).

The Coalition for Active Living (2004) suggested strategic priorities to guide efforts to engineer physical activity into daily life. These strategies suggest other potential roles for government. The first strategy is healthy public policy. This should involve creation of a paradigm shift to support a social and physical environment that is essential to sustaining a basic level of activity; the engagement of recreation and other policy makers to create barrier free communities, to explicitly recognize active transportation and physical recreation; and to broaden provincial and territorial infrastructure programs to retrofit existing facilities and build new ones.

The second strategy, community physical environment, involves development of a community master plan for transportation with a higher priority on active transportation It also includes development of a plan to ensure opportunities for physical activity; ensure safe and accessible trails and pathways; and ensure that infrastructure that supports physical activity is available regardless of income level.

The third strategy, a supportive social environment, concerns encouragement and support for integrated community coalitions. It suggests that federal, provincial and territorial health agreements include physical activity counselling as an expense by doctors; provision of incentives for work places that support physical activity; implementation of interventions to create work places, schools, community organizations and neighbourhoods which are supportive of physical activity; provision of community programs that offer social support; review of health promotion models and interventions to identify best practices and avoid pitfalls; design of health behaviour change programs adapted for older adults; adoption of culturally sensitive approaches; and examination of barriers in current programs.

The fourth strategy, public education, involves community campaigns; public education to provide information, generate discussion and influence attitudes

and values about physical activity; social marketing techniques to increase awareness and understanding of the role of community assets in enhancing quality of life and supporting physical activity, and identifying and engaging role models to disseminate clear messages.

All three levels of government can play a vital role in the development and implementation of physical activity programs for older adults in Nova Scotia. They can promote physical activity, and the Physical Activity Guide to decrease levels of inactivity. They can identify and minimize or remove barriers to participation, and they may want to consider providing financial support for programs, as they may lead to reductions in health care costs. Governments could develop standards for training of staff and peer leaders, as well as for physical activity programs themselves, as well as develop policies for program components.

Conclusion

Physical activity has an important role as the population continues to age. It is critical in preventing many age related diseases, controlling weight, and improving or maintaining functional ability. Many older Canadians do not exercise enough to maintain functional ability. This may be due to a number of barriers to participation, such as social norms that discourage exercise, and a lack of accessible programs and facilities. There are many benefits of physical activity. Physical activity can result in better balance, strength, and cardiorespiratory function. It can also lead to feelings of belonging and socialization, it can improve psychosocial well-being, and it can have positive economic impacts for the health care system. In order to reap the benefits of physical activity, older adults should try to accumulate 30 minutes of moderate exercise on most days, and include endurance, flexibility, strength and balance activities.

There are many models of successful physical activity programs for older adults. These range from community programs to in-home programs. Some programs are educational, some just involve exercise, and others combine the two. There are many tips for success, including planning for program evaluation, adopting a multigenerational approach, offering free or low cost programs, and offering incentives for participation.

Partnerships are important for developing programs. Some potential partners include the International Council on Active Aging, the International Society for Physical Activity and Aging, Active Living Coalition for Older Adults, Health Canada, and the Canadian Society of Exercise Physiology. Local potential partners include the Office of Health Promotion, the Department of Health, the Senior Citizen's Secretariat, Recreation Nova Scotia, and Sport Nova Scotia. As well, local organizations and voluntary groups, such as the YMCA and the Royal Canadian legion may serve as partners.

The role of the three levels of government is varied. Most importantly, government should continue to promote physical activity for older adults and provide support for local programs. The federal government's role, through Health Canada, involves strategic leadership and policy development, providing advice to organizations, and participating and supporting research, and knowledge development and dissemination. At the provincial level, the Office of Health Promotion can expand its physical activity strategy to include all Nova Scotians, remain aware of current trends in active aging and create awareness and understanding of the benefits of physical activity. The Nova Scotia Seniors' Secretariat could play a role in identifying partners, developing plans and establishing priorities. Finally, the Coalition for Active Living

recommends strategies, including public health policy, community physical environment, a supportive social environment, and public education as other potential roles for government.

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